

23. (Previously Presented) The system of claim 19 wherein the four electromagnets are capable of generating a magnetic field in an operating region that is sufficient to navigate a magnetic medical device in the portion of a patient that is within the operating region, and wherein the patient support is moveable and rotatable about its longitudinal axis to facilitate positioning of the patient relative to the operating region of the electromagnets.

REMARKS

Claims 3-19 and 20-23 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein. Claim 19 has been amended to change "magnet" to "electromagnet" for clarity.

REJECTION UNDER 35 U.S.C. § 102

Claims 3 and 6 stand rejected under 35 U.S.C. § 102(b), or in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Bladen et al. (U.S. Pat. No. 5,913,820). This rejection is respectfully traversed.

Claims 3 and 6

Claims 3 and 6 have been amended to clarify that the system provides a magnetic field effective within the operating region for orienting the end of the magnetic medical device to navigate the magnetic medical device within the operating region. Support for this subject matter is given in paragraph 23 of the application, which recites the system is capable of providing magnetic fields of sufficient strength for orientation and even movement of magnetic medical devices".

The Office Action asserts that the system in *Bladen et al.* provides a magnetic field effective within the operating region to navigate the magnetic medical device. However, *Bladen et al.* only teaches determining the location of a single sensing coil by sequentially energizing each of three coils. While the single sensing coil may be separately navigated by a physician, the coils **do not** produce a magnetic field effective within the operating region for orienting the end of the magnetic medical device. As such, claims 3 and 6 are not anticipated.

REJECTION UNDER 35 U.S.C. § 103

Claims 3-19 and 21-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Creighton, IV et al.* (U.S. Pat. No. 6,529,761) in view of *Bladen et al.* (U.S. Pat. No. 5,913,820). This rejection is respectfully traversed.

Claims 3, 6, 7, 9, 10, 12, 16 and 19

The Office Action asserts that the system in *Creighton, IV et al.* provides that alternative supporting structures can be used as long as the imager is not effected. However, *Creighton, IV et al.* states that “any moveable support means may be provided, and alternate structures **for providing pivoting or rotational movement** of the supporting means may be provided”. (*Creighton, IV et al.*, column 6 lines 61-63). Thus, *Creighton, IV et al.* only suggests a motivation to use an alternate structure for providing pivoting or rotational movement of the support including the magnets, and does not provide any motivation to include at least three magnets on a single planar support. Moreover, *Creighton, IV et al.* teaches electromagnets that are “mounted on or affixed to a curved shell 26 which surrounds one-half (or approximately one-half) of the treatment region...so that the electromagnets in the different rows to which

electromagnets 24A-24F belong are also directed towards the treatment region, but along axes that cross the treatment region 22 at various angles". (*Creighton, IV et al.* column 4 line 62 through column 5 line 4). Thus, *Creighton, IV et al.* teaches mounting electromagnets to surround the treatment region, rather than on a planar support.

The Office Action also asserts that it would have been obvious to provide at least three magnets on a planar support in view of *Bladen et al.* *Bladen* teaches sequentially energizing each of three coils arranged on a plane, for determining the location of a sensing coil with respect to each energized coil. However, the teachings in *Bladen* of sequentially energizing coils is contrary to the teachings *Creighton, IV et al.*, which discloses "progressive activation of the subsets of the electromagnets as needed to guide or move implant 28 and/or gradual change in the currents through the energized electromagnets. (This progressive changing of subsets of energized electromagnets and gradual changing of the currents in the energized electromagnets shall be referred to as a "wavelike" change, because it is gradual, "propagates" through nearby coils in a specific direction [as determined by surgical requirements], and, for periods of time, is either continuous in time or approximately so. It should be understood that this term is not being used to refer to electromagnetic radiation as such.) As the implant or seed 28 moves, the amount of current in the activated one or ones of coils 24 will change, usually with adjacent coils to the set also being gradually energized or de-energized, so that the activation itself can be considered as smoothly travelling through the set of coils" (*Creighton, IV et al.*, column 5 line 64 through column 6 line 13).

As *Creighton, IV et al.* teaches progressively energizing a subset of a plurality of coils that are arranged to surround an operating region, and *Bladen* teaches sequentially energizing each of three coils arranged on a plane which do not surround

an operating region, the Applicant submits that these references are contrary to each other and teach away from combining. Moreover, *Creighton, IV et al* teaches a system for navigating a device, whereas *Bladen* teaches a system for identifying the location of a device. The Applicant submits that these references are incompatible and do not make the claimed systems and methods obvious.

In addition, *Bladen* fails to teach at least three magnets that provide a magnetic field effective within the operating region for orienting the end of the magnetic medical device to navigate the magnetic medical device. *Bladen* rather teaches only one coil (of three) that individually provides a magnetic field, which is used to determine the location of a sensor relative to the one coil. Thus, *Bladen* provides no motivation to have three coils on a planar support, which together provide magnetic field within the operating region. The Applicant submits that obviousness cannot be established without also providing evidence of the motivating force which would impel one skilled in the art to do what the applicants have done. See, *MPEP 2144*. Thus, the Applicant submits that claims 3, 6, 7, 9, 10, 12, 16 and 19 are not obvious in view of *Creighton, IV et al.* and *Blade et al.*, and thus are patentable.

With regard to dependant claims 4-5, 8, 11, 13-15, 17-18, and 21-22, these claims ultimately depend from independent claims 3, 6, 7, 9, 10, 12, 16 and 19, which the Applicant believes to be allowable in view of the above remarks. As such, the Applicant submits that claims 4-5, 8, 11, 13-15, 17-18, and 21-22 are also allowable for at least these reasons.

PREVIOUSLY PRESENTED (NEW) CLAIM

Applicant previously added claim 23 depending from claim 19, which does not appear to have been addressed by the Office Action. Applicants also believe claim 23 is allowable in view of the feature of the patient support being movable and rotatable to facilitate positioning of the patient relative to the operating region of the electromagnets, where the magnetic field in an operating region that is sufficient to navigate a magnetic medical device in the portion of a patient that is within the operating region. As such, Applicant submits that claim 23 is allowable in view of the above remarks and by virtue of its dependence from claim 19.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, and that the claims are in a condition for allowance. There is admittedly no express teaching of a planar support in *Creighton, IV et al.*, and applicant submits that there is no teaching or suggestion of a planer support in *Creighton, IV et al.* Applicant therefore respectfully requests that the Examiner allow the application, or at least withdraw the finality of the outstanding rejections made in the Final Office Action. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (314) 726-7500.

Respectfully submitted,

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